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23. (New) A mobile station for communicating with the fixed parts of a mobile telecommunication system over network connections, comprising means for executing the method according to claim 18 in order to perform a handover from a first network connection to a second network connection.

REMARKS

Added claims 10 and 18 correspond to allowable claims 2 and 4 rewritten in independent form, and therefore they and their dependent claims are allowable.

It is true that Whinnett discloses the process of a mobile station performing a handover, but the applicants respectfully point out that handovers have been known for at least ten years before the present invention was made, and since applicant is not claiming a simple handover process, Whinnett has only very limited pertinence to the patentability of the present invention. Whinnett relies completely on concepts such as "telephone", "call", and "TDMA", which are all features of conventional circuit-switched wireless telephone networks. All telephone calls invariably involve real-time connections, because even minor delays and timing errors are immediately noticeable and highly irritating to the participants of a telephone call. On the contrary, the applicants have explicitly mentioned in the pending independent claims that the invention only concerns non-real-time connections. Suspending a telephone call like those discussed in Whinnett, and resuming communication after a temporary suspension-combined with the immediate transmission of all data that was not sent during the suspension-is not possible for the same reason: the participants of the call would first be annoyed to notice that a silent pause suddenly begins in the telephone call, and the same participant

could then be very puzzled when the suspension ended with a burst of unsent speech suddenly emerging from their earpieces. It is therefore fundamentally impossible to combine Whinnett with any other publication that mentions anything referring to suspending a connection.

Considering Jayapalan, it is noted that it also concerns exclusively circuit-switched services. A fax call is comparable to a telephone call with the only difference that the audio signals that in an ordinary telephone call carry speech carry coded intensity data instead in a fax call. Therefore the concept of a fax call as taught by Jayapalan still fails to disclose non-real-time communications which is the explicitly recited subject of the applicants' claimed invention.

Even if one would, for the sake of example only, equate a fax transmission with non-real-time data, there is a fundamental difference between the applicants' invention and the disclosure of Jayapalan. Contrary to the Examiner's assertion, Jayapalan does not disclose the concept of suspending transmissions for the duration of a handover. To understand this, one must carefully consider what is actually disclosed in Jayapalan's Fig. 2 and the associated description in column 2, lines 65-67. The entity 10 inside the broken line box is a mobile station, i.e., a mobile telephone. When we speak about a network connection that is or is not suspended, we speak about the connection between the mobile station and the cellular radio network. In Jayapalan's Fig. 2 there is further a local connection between the mobile telephone 10 and a fax machine 14 through an adapter 13A, but this connection is only between a transceiver and an application that locally utilizes the services of the transceiver.

Now one must carefully examine, what actually happens between the various blocks of Jayapalan's Fig. 2 when a handover becomes imminent. The mobile telephone 10 issues a handover warning to the fax adapter 13A. The last-mentioned reacts by entering a search mode, where it looks for the next EOL (end-of-line) character in the data stream it receives from the fax machine 14 to a buffer memory 13B and starts conjuring filler bits that it feeds to the mobile telephone 10 instead of any actual fax data. All this has been described on lines 35-45 of column 3 in Jayapalan.

The important thing to understand is that the mobile telephone 10 does not have the slightest idea about the information content (if any) of the bits it receives as a transmission stream from the fax adapter 13A. Even if the last-mentioned switched to transmit filler bits instead of actual fax data, the mobile station 10 continues transmitting these filler bits over the network connection exactly as if they contained fax data. The decision of the fax adapter 13A to transmit filler bits instead of actual fax data has no effect whatsoever on the circuit-switched connection between the mobile telephone 10 and the cellular radio network. In other words, there is no such thing in Jayapalan as suspending transmissions in a connection. The information content of the data transmitted over a connection changes from meaningful data into doesn't care filler bits (and back to meaningful data after the handover), but this change only means something to the facsimile machine that is receiving the transmission at the very other end of the point-to-point telephone connection. All other devices along the communication connection, including the mobile telephone and all parts of the cellular radio network, handle the connection during a handover exactly as if the transmitted information was

something meaningful. They will never even become aware of the fax adapter's decision about replacing meaningful data bits with filler bits for a certain duration of time.

The applicants' invention of claim 1 explicitly recites an "active non-real time telecommunication connection between a mobile station and the fixed parts of the mobile telecommunication system to be suspended." This is definitely something that does not take place in Jayapalan, which only suggests changing the information content of such a connection and never making any changes to the way in which to handle the connection between a mobile station and the fixed parts of the mobile telecommunication system. Therefore the reference publication of Jayapalan is, both alone and in combination with Whinnett, not pertinent to the patentability of the present invention.

There is still another, more subtle difference between Jayapalan and the applicants' invention. A fax transmission as considered by Jayapalan consists of lines, each of which further consists of dots. Taking a typical modest resolution of 150 dots per inch and a typical line length of 8 inches, one line has something like 1200 dots. Even if only monochrome mode were used with absolutely no channel coding, the fax would need at least 1200 bits to transmit the information content of one line. A cellular telephone is typically capable of a maximum data rate of 9600 bits per second, which means that it takes an absolute minimum of 0.125 seconds to transmit the information content of a single line in a telefax. Note that the higher fax resolution, use of grayscale (more than one bit for each dot), channel coding, and suboptimal transmission conditions (which is typically the case when a handover is imminent) all serve to

lengthen said minimum transmission time. A handover, on the other hand, may become imminent very quickly, in the matter of milliseconds (the frame length of for example the European GSM system is 4.615 ms, and a handover command coming in one frame may become effective in any of the immediately following frames). Comparing the time scale of a typical handover situation to the default time it takes for the next EOL to be found in a fax transmission, we see that a handover may be in progress well before Jayapalan's fax adapter finds the next EOL after which it only starts transmitting the filler bits. Therefore Jayapalan does not unambiguously teach any kind of modifications to the transmissions before a handover is a reality. The applicants explicitly require in the present claims that the suspension becomes effective before the beginning of the actual handover process.

A corollary of the relatively slow reacting capability of Jayapalan's arrangement compared to the time scale of a typical handover is that Jayapalan is unable to completely avoid loss of transmitted data. If a handover has already begun before Jayapalan's fax adapter finds its next EOL, all data that was transmitted in between is in the danger of being lost. The applicants suggested order of suspending transmissions first and beginning the handover only thereafter eliminates all such risks of losing data. It is thus impossible to achieve similar results in Jayapalan's arrangement and the applicants' claimed invention, which further shows that Jayapalan is not pertinent to the applicants' pending independent claims.

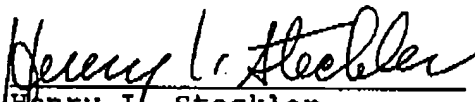
Therefore claims 1 and 9 are unobvious under 35 U.S.C. 103 on this combination of references.

Since the admitted prior art, Frodigh, and Kaneroa fail to enclose or suggest these features, the rejections of claims 5-8 on them in combination with the above references should be withdrawn.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment of \$54.00 for the additional claim fees and for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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